Sheffield® Endeavor™ and Endeavor FlexScan™ Coordinate Measurement Machines

A Company of
ThyssenKrupp
Technologies

Giddings & Lewis
Controls, Measurement and Sensing

ThyssenKrupp

The Sheffield Endeavor Series CMM

Shop floor rugged. Inspection lab smart.

High Accuracy Made Affordable
The Endeavor CMM brings you a new level of inspection performance suitable for both the shop floor and the inspection laboratory. You can rely on standard volumetric accuracy up to .008mm and repeatability of .0025mm — performance never before possible in a cost-effective machine which can withstand many manufacturing environments. No shop floor CMM has ever been this capable, and no lab machine has ever been this affordable to operate.

Advanced Kinematic Design
Endeavor's rigid yet lightweight moving structure and optimal bearing locations provide more accurate control without drive system distortion. Endeavor's design is inherently vibration resistant, so the standard elastomeric isolation pads may be all you need. Real-time temperature compensation provides accuracy guaranteed up to ±9°F, allowing Endeavor to deliver full performance where many other CMMs can't.

Higher Reliability, Lower Operating Cost
A brushless linear motor direct drive system increases reliability by ending drive misalignment and eliminating the moving parts found in mechanical drives. Because the Endeavor uses fewer components, it's also much easier to maintain. The result: reduced maintenance expense and lower operating costs.

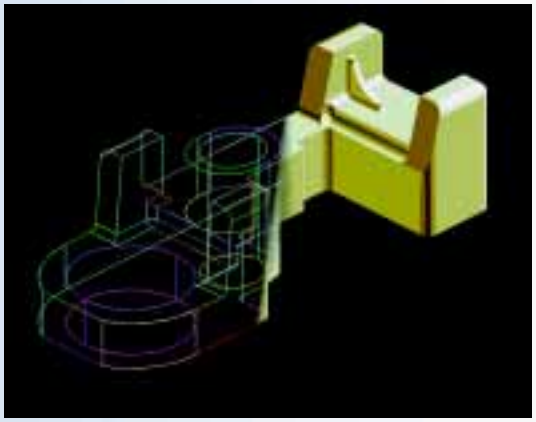
Versatile Inspection Software
MeasureMax+™ lets your Endeavor CMM do it all. On the shop floor, you can use the software's Single Touch Interface™ mode to run a part program by touching a picture on the monitor screen. With the Windows® interface, you can perform inspection, process control, statistical analysis, reverse engineering, and part programming through VisualBASIC® or from CAD files.

The Sheffield Endeavor FlexScan Series Scanning CMM

Your ideal scanning choice for nearly every application.

More Information Means Better Results

Endeavor FlexScan gives you more measurement data for more accurate results and improved repeatability for better SPC information. Because data is collected continuously, information gaps are eliminated. FlexScan also generates form plots showing the "goodness" of each feature.



Half the Price

The Endeavor FlexScan CMM is about half the price of some scanning CMMs with similar measuring envelopes. A motorized articulating probe head saves thousands of dollars by eliminating the need for clusters of special probe configurations and extensions. This saves space, too, so you can measure the same parts with a smaller machine.

Twice the Flexibility

An Endeavor FlexScan CMM offers greater flexibility because it can handle an analog probe, a touch-trigger probe, or both. You can combine scanning with discrete point measurement on the same workpiece. Scan prismatic features, known shapes and unknown shapes. And since Endeavor CMMs offer up to ±9° F temperature change and built-in vibration resistance, FlexScan stands up to many environments other CMMs can't tolerate.

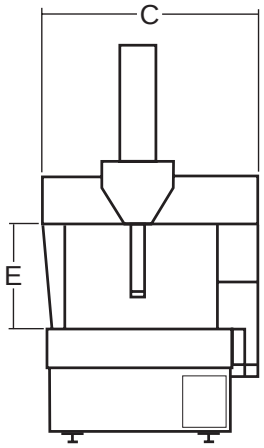
Easy To Use

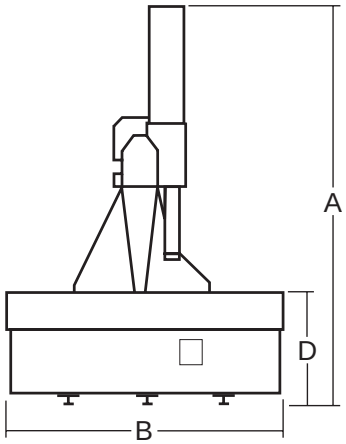
FlexScan capability is fully integrated into MeasureMax+ inspection software. For scanning prismatic features, a Wizard guides you step-by-step. Programming a scanning inspection is just as easy: choose Analog or Touch for the "Scanning Option," then tell the software how many points to take. With FlexScan, you can use other advanced features such as FormFit 3-D analysis and create IGES or DXF files to support reverse engineering.

Sheffield Endeavor CMM Performance and Dimensions

Model	9.9.7	9.12.7	9.15.7	9.12.10	9.15.10	12.15.10	12.20.10	12.25.10	12.30.10
X Axis Travel	914mm (36")	914mm (36")	914mm (36")	914mm (36")	914mm (36")	1219mm (48")	1219mm (48")	1219mm (48")	1219mm (48")
*Y Axis Travel	914mm (36")	1219mm (48")	1524mm (60")	1219mm (48")	1524mm (60")	1524mm (60")	2032mm (80")	2540mm (100")	3048mm (120")
Z Axis Travel	660mm (26")	660mm (26")	660mm (26")	1016mm (40")	1016mm (40")	1016mm (40")	1016mm (40")	1016mm (40")	1016mm (40")
Resolution (Displayed)	.0001mm / .000004"								
* Repeatability (Range) per B89.4.1 Section 5.3	.0025mm / .0001"								
* Linear Accuracy (Range Full Travel) per B89.4.1 Section 5.4.3									
X	.0030mm (.00012")	.0030mm (.00012")	.0030mm (.00012")	.0040mm (.00016")	.0040mm (.00016")	.0045mm (.00018")	.0045mm (.00018")	.0045mm (.00018")	.0050mm (.00020")
Y	.0030mm (.00012")	.0040mm (.00016")	.0050mm (.00020")	.0040mm (.00016")	.0050mm (.00020")	.0050mm (.00020")	.0055mm (.00022")	.0060mm (.00024")	.0070mm (.00028")
Z	.0025mm (.00010")	.0025mm (.00010")	.0025mm (.00010")	.0035mm (.00014")	.0035mm (.00014")	.0035mm (.00014")	.0035mm (.00014")	.0035mm (.00014")	.0040mm (.00016")
* Volumetric Accuracy (Range) per B89.4.1 Section 5.5.2	.0080mm (.00032")	.0085mm (.00034")	.0090mm (.00036")	.0100mm (.00040")	.0105mm (.00042")	.0120mm (.00048")	.0130mm (.00052")	.0140mm (.00056")	.0150mm (.00060")
* VDI/VDE 2617 Length Measuring Uncertainty U_{95}									
1D in µm	2.5 + 3L / 1000µm			3 + 3.8L / 1000µm					
3D in µm	2.8 + 3.8L / 1000µm			3.3 + 4L / 1000µm					
Max. Velocity (Vector)	650mm per second / 25.6" per second					575mm per second / 22.6" per second			
Max. Acceleration (Vector)	1700mm per second^2 / 67" per second^2								
Bearings	Air								
Maximum Work Load	1000 kg (2200 lbs.)	1000 kg (2200 lbs.)	1250 kg (2750 lbs.)	1000 kg (2200 lbs.)	1250 kg (2750 lbs.)	1500 kg (3300 lbs.)	1800 kg (3960 lbs.)	2000 kg (4400 lbs.)	2000 kg (4400 lbs.)
Machine Weight (Approx.)	2450 kg (5400 lbs.)	2750 kg (6050 lbs.)	3050 kg (6700 lbs.)	2800 kg (6160 lbs.)	3100 kg (6820 lbs.)	4350 kg (9750 lbs.)	5100 kg (11220 lbs.)	5900 kg (12980 lbs.)	8700 kg (19140 lbs.)
Mean Significant Temp. Change	±5°C (9°F)					±3°C (5.4°F)			
Model Dimensions	**9.9.7**	**9.12.7**	**9.15.7**	**9.12.10**	**9.15.10**	**12.15.10**	**12.20.10**	**12.25.10**	**12.30.10**
A	3013mm (118.6")	3013mm (118.6")	3013mm (118.6")	3724mm (146.6")	3724mm (146.6")	3775mm (148.6")	3775mm (148.6")	3775mm (148.6")	3877mm (152.6")
B	2083mm (82.0")	2388mm (94.0")	2692mm (106.0")	2388mm (94.0")	2692mm (106.0")	2692mm (106.0")	3201mm (126.0")	3709mm (146.0")	4217mm (166.0")
C	1618mm (63.7")	1618mm (63.7")	1618mm (63.7")	1618mm (63.7")	1618mm (63.7")	1923mm (75.7")	1923mm (75.7")	1923mm (75.7")	1923mm (75.7")
D	813mm (32.0")	813mm (32.0")	813mm (32.0")	813mm (32.0")	813mm (32.0")	864mm (34.0")	864mm (34.0")	864mm (34.0")	966mm (38.0 ")
E	825mm (32.5")	825mm (32.5")	825mm (32.5")	1180mm (46.5")	1180mm (46.5")	1180mm (46.5")	1180mm (46.5")	1180mm (46.5")	1180mm (46.5")

***Higher accuracies and extended Y axis lengths are available.**





Giddings & Lewis
Controls, Measurement and Sensing
660 S. Military Road P.O. Box 1658
Fond du Lac, WI 54936-1658
Phone: 920 921 7100 Fax: 920 906 7669
www.giddings.com